

## ABSTRACT

Methods, systems and computer program products for efficiently characterizing devices under test (DUTs) using a vector network analyzer (VNA) are provided. A N-port DUT can be divided as appropriate into multiple sub-devices, or multiple separate devices can be present. A parent calibration is performed. The VNA is then used to determine the S-parameters of interest for each sub-device or separate device, preferably without measuring S-parameters that are not of interest. This can include measuring S-parameters and removing corresponding error coefficients determined during the parent calibration.